



## EQUIPMENT Operation Manual

---



# Loctite<sup>®</sup> Stainless Steel Poppet Valve

Part Number 982621



---

## 1 Please Observe The Following

---

### 1.1 Emphasized Sections

#### **Warning!**

Refers to safety regulations and requires safety measures that protect the operator or other persons from injury or danger to life.


#### **Caution!**


Emphasizes what must be done or avoided so that the unit or other property is not damaged.


#### **Notice:**


Gives recommendations for better handling of the unit during operation or adjustment as well as for service activities.


### 1.2 For Your Safety

 For safe and successful operation of the unit, read these instructions completely. If the instructions are not observed, the manufacturer can assume no responsibility.

 Use only original equipment replacement parts.

 Always disconnect the air supply before servicing the unit.

 Observe general safety regulations for the handling of chemicals such as Loctite<sup>®</sup> adhesives and sealants. Observe the manufacturer's instructions as stated in the Material Safety Data Sheet (MSDS).

 *While under warranty, the unit may be repaired only by an authorized Loctite service representative.*

### 1.3 Unpacking and Inspection

Carefully unpack the Loctite<sup>®</sup> Stainless Steel Poppet Valve and examine the items contained in the carton. Inspect the unit for any damage that might have occurred in transit. If such damage has occurred, notify the carrier immediately. Claims for damage must be made by the consignee to the carrier and should be reported to the manufacturer.

---

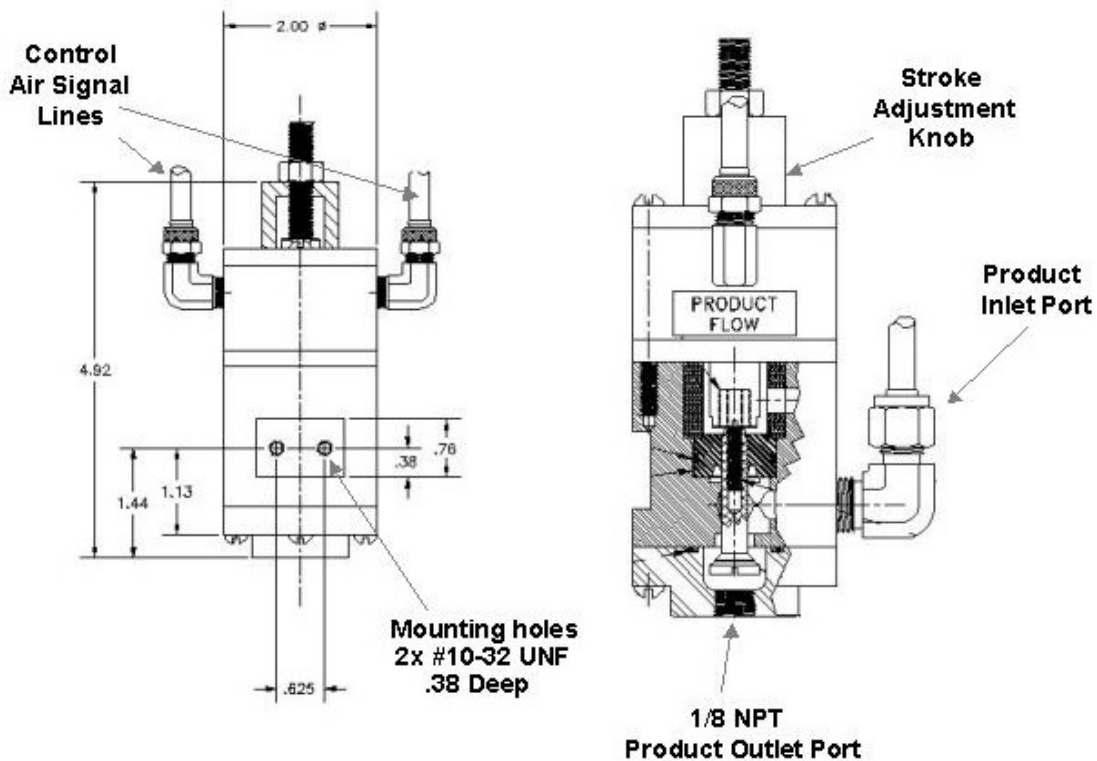
## 2 Introduction

---

This Dispense Valve is designed to dispense Loctite® high viscosity silicones, modified silanes, and abrasive gasketing products. The valve is typically used in conjunction with a positive displacement pump or pressure-time system.

The valve is a poppet type valve with a single lip type seal on the poppet stem. The poppet design gives the valve a "suck-back" feature to reduce product stringing. This valve can operate at fluid pressures up to 625 psi and is equipped with a 1/8" NPT outlet for Luer Lock and standard needle dispensing.

A double acting air cylinder operates the poppet. This valve has stroke adjustment capability and is treated with a proprietary Loctite® coating to prevent premature adhesive curing.



---

## 3 Theory of Operation

---

Product is supplied at pressure to valve fluid inlet port.

Compressed air is supplied to air cylinder while “Product Shut Off” port holds poppet on its seat preventing product flow.

Compressed air is exhausted from “Product Shut Off” port and switched to “Product Flow” port.

Poppet moves off its seat and product flows through valve and out of nozzle.

At the end of the desired dispense cycle; the compressed air is exhausted from “Product Flow” port and is switched to “Product Shut Off” port. This moves the poppet back onto its seat.

As the poppet moves back onto its seat, a straight section of the poppet enters a close fitting bore in the valve body. This action creates a seal.

As the poppet travels back further it increases the volume in the valve chamber above the nozzle. This increase in volume produces a slight negative pressure in the chamber above the nozzle. This negative pressure lets atmospheric air pressure push the product column back up the nozzle. This is the “Suck - Back” effect.

The final seal is made when the 120 deg. poppet taper contacts the seat in the valve body.

Relationship of Product Pressure to Control Air pressure:

- There is a pressure balance between the Product Pressure and the Control Air Pressure.
- This balance is determined by the ratio of the projected poppet area to the air cylinder area.
- The ratio is 1 psig of control air pressure to balance 13 psig of product pressure.
- For the valve to operate reliably the force available from the air cylinder must be greater than the force available from the product pressure.
- Loctite recommends that the product pressure be less than 10 times the control air pressure.

---

## 4 Instructions

---

### 4.1 Safety Precautions: Read and observe before working on valve!

Wear protective gear (safety glasses, gloves, aprons, etc.) as required.

Make sure that the control air pressure is zero and that air is “off” and no compressed air is trapped in the air lines.

Make sure that the product pressure is zero and that product is “off” and that no product under pressure is trapped in the product supply lines.

Product under high pressure can penetrate skin and other organs. Always position the dispense nozzle so that it will not discharge in a dangerous manner. Likewise, position any disconnected hoses so that they will not discharge in a dangerous manner.

## **4.2 Installation:**

This valve requires a source of pressurized product and a 4-way pneumatic valve to operate.

1. Turn all utilities "OFF" and set the product pressure to zero psig.
2. Connect the normally passing port of the 4-way pneumatic valve to the Dispense Valve "Product Shutoff" port.
3. Connect the normally not passing port of the 4-way pneumatic valve to the Dispense Valve "Product Flow" port.
4. "Connect" the pressurized product source to the Dispense Valve product inlet port (unmarked).

## **4.3 Operation:**

1. Turn on utilities. Compressed air to "Product Shutoff" moves poppet onto seat, closing valve.
2. Pressurize product.
3. On initial startup or after replacing empty product container with a full one, remove air from product supply tube and valve as follows:
4. Place container under dispense nozzle.
5. Open dispense valve under manual control to remove air from product supply tube and valve. When air is purged from system, close dispense valve.
6. Resume normal operation.

## **4.4 Shutdown Procedure:**

This is the specific procedure to follow if the Dispense Valve is to be shut down overnight or longer when dispensing products. This procedure leaves the valve in the open position so that the minimum number of wetted parts are in close contact.

1. Remove all product pressure to the Dispense Valve. It is also advisable to relieve the pressure on the product by setting it to zero.
2. Place a container under the dispense nozzle.
3. Cycle the Dispense Valve to the "Open" or "Product Flow" position. This moves the cylindrical "Suck-Back" section of the poppet out of the valve body. This leaves the minimum number of wetted parts in close contact.
4. When restarting the system, cycle the Dispense valve to the "Closed" or "Product Shut Off" position.

---

## 5 Troubleshooting and Phone Numbers for Help

---

Because of the complex steps in, the chemicals required for, and the safe handling and disposal of these chemicals, Loctite does not recommend rebuilding of this Dispense Valve.

Henkel Corporation has a Valve Rebuild Program and can ship a rebuilt and tested Dispense Valve to the customer generally within (1) day of receipt of a failed Dispense Valve.

If you have a critical application we recommend that you keep a new or rebuilt valve in stock so that your down time will be limited to the time that it takes to change out a Dispense Valve.

### 5.1 Troubleshooting:

<b>Problem</b>	<b>Cause</b>	<b>Proposed Solution</b>
No Product Dispensed.	Check that pressurized product is available at valve inlet port.	Supply Pressurized Product.
	Check that control air is operating and available.	Supply Control Air.
	Nozzle plugged.	Replace Nozzle.
	None of the above.	Replace Dispense Valve.
Product Flow does not shut off.	Check that control air is operating and available.	Supply Control Air at correct pressure.
	Product pressure too great.	Reduce product pressure.
	None of the above.	Replace Dispense Valve.
Product appears at observation port in valve body.	Seal is leaking.	Replace Dispense Valve.

Questions regarding installation, operation, or safety should be addressed to:

Henkel Corporation  
Technical Information Department  
1001 Trout Brook Crossing  
Rocky Hill, Connecticut 06067  
U.S.A.  
Telephone: 1-800-LOCTITE (1-800-562-8483) or 860-571-5100.

---

## 6 WARRANTY

---

Henkel expressly warrants that all products referred to in this Instruction Manual for 982621 Loctite® Valve (hereafter called “Products”) shall be free from defects in materials and workmanship. Liability for Henkel shall be limited, as its option, to replacing those Products which are shown to be defective in either materials or workmanship or to credit the purchaser the amount of the purchase price thereof (plus freight and insurance charges paid therefor by the user). The purchaser’s sole and exclusive remedy for breach of warranty shall be such replacement or credit.

A claim of defect in materials or workmanship in any Products shall be allowed only when it is submitted in writing within one month after discovery of the defect or after the time the defect should reasonably have been discovered and in any event, within (12) months after the delivery of the Products to the purchaser. This warranty does not apply to perishable items, such as (indicate items: fuses, filters, lights, ect.) No such claim shall be allowed in respect of products which have been neglected or improperly stored, transported, handled, installed, connected, operated, used or maintained. In the event of unauthorized modification of the Products including, where products, parts or attachments for use in connection with the Products are available from Henkel, the use of products, parts or attachments which are not manufactured by Henkel, no claim shall be allowed.

No Products shall be returned to Henkel for any reason without prior written approval from Henkel. Products shall be returned freight prepaid, in accordance with instructions from Henkel.

NO WARRANTY IS EXTENDED TO ANY EQUIPMENT WHICH HAS BEEN ALTERED, MISUSED, NEGLECTED, OR DAMAGED BY ACCIDENT.

EXCEPT FOR THE EXPRESS WARRANTY CONTAINED IN THIS SECTION, HENKEL MAKES NO WARRANTY OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCTS.

ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND OTHER WARRANTIES OF WHATEVER KIND (INCLUDING AGAINST PATENT OR TRADEMARK INFRINGEMENT) ARE HEREBY DISCLAIMED BY HENKEL AND WAIVED BY THE PURCHASER.

THIS SECTION SETS FORTH EXCLUSIVELY ALL OF LIABILITY FOR HENKEL TO THE PURCHASER IN CONTRACT, IN TORT OR OTHERWISE IN THE EVENT OF DEFECTIVE PRODUCTS.

WITHOUT LIMITATION OF THE FOREGOING, TO THE FULLEST EXTENT POSSIBLE UNDER APPLICABLE LAWS, HENKEL EXPRESSLY DISCLAIMS ANY LIABILITY WHATSOEVER FOR ANY DAMAGES INCURRED DIRECTLY OR INDIRECTLY IN CONNECTION WITH THE SALE OR USE OF, OR OTHERWISE IN CONNECTION WITH, THE PRODUCTS, INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS AND SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER CAUSED BY NEGLIGENCE FROM HENKEL OR OTHERWISE.



## **Loctite Industrial**

### **Henkel Corporation**

1001 Trout Brook Crossing  
Rocky Hill, CT 06067-3910

### **Henkel Corporation**

2225 Meadowpine Boulevard  
Mississauga, Ontario L5N 7P2

### **Henkel Capital, S.A. de C.V.**

Calzada de la Viga, s/n, Fracc. Los Laureles  
Loc. Tulpetlac, C.P. 55090  
Ecatepec de Morelos, Edo de Mexico,  
Mexico

### **Henkel Automotive Technology Center**

2455 Featherstone Road  
Auburn Hills, Michigan 48326

### **Henkel Ltda. Brazil**

Av. Prof. Vernon Kriebel, 91  
06690-11-Itapevi  
Sao Paulo, Brazil

**[www.loctite.com](http://www.loctite.com)**

Loctite is a registered trademark of Henkel Loctite Corporation, U.S.A.  
© Copyright 2007. Henkel Corporation. All rights reserved. Data in this operation manual is subject to change without notice.  
Manual P/N: 8901592, 11/2007